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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,041	04/23/2004	Joong-Chul Yoon	8947-000063/US/CPA	7510
30593 7590 09/11/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER				
NGO, CHUONG D				
ART UNIT		PAPER NUMBER		
2193				
MAIL DATE		DELIVERY MODE		
09/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/830,041

Applicant(s)

YOON ET AL.

Examiner

Chuong D. Ngo

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 6/5/08 & 6/11/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 2-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 2-17 are directed to an inventions that merely perform calculations and manipulations of data. In order for such a claimed invention to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. See *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”, OG Notices: 22 November 2005. It is clear from the claims that the invention merely performs calculations and manipulations of data. The claimed invention does perform any physical transformation. The inputs are numbers and the output is also a number. Further, the result of the invention is a mere numerical value without a practical application recited in the claims to make it a real world result. Therefore, the result is not useful, concrete and tangible. Thus, the claimed inventions are directed to non-statutory subject matter as the claimed inventions fail to accomplish a practical application. Further, since the claims appear to cover every substantial practical application, they are also directed to a preemption of the claimed manipulation and calculation of data.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tsuruta (5,206,827).

Tsuruta discloses in figure 3 modulus selector for receiving the n-bit modulus M (d), the previous sum (output of 16), the current partial product (output of 17), and a multiplicand (R) to generate a second selection signal including a modulus selector unit for receiving an n-bit modulus M, a previous sum, a current partial product, and a multiplicand to generate a selection signal (selection signal to 13), for selecting one of the three values 0, M, and 2M, that is input to a multiplexer (13) and a modulus accumulation indicating signal (control signal to 17) that is input to an accumulator (17).

5. Applicant's arguments filed 06/11/2008 have been fully considered but they are not persuasive.

Regarding the rejection under 35 USC 101, it is respectfully submitted that the recitations of a multiple modulus selector (claim 2), a Montgomery modular multiplier (claim 12), a modulus selector (claim 16) and a Booth recoder (claim 17) “of a computer system, communication network, or computer system and communication network that uses a public-key cryptographic algorithm” do not necessarily require the claimed invention to be used in a public-

key cryptographic algorithm to produce a useful, concrete and tangible result, and thus fail to render the claimed invention statutory. The claims should recite the multiple modulus selector, the Montgomery modular multiplier, the a modulus selector, and the Booth recoder for a public-key cryptographic algorithm in a computer system, communication network, or computer system and communication network that uses the public-key cryptographic algorithm.

Regarding the rejection under 35 U.S.C. 102(b), it is respectfully submitted that since claim 16 fails to clearly define what a previous sum, a current partial product, an a multiplicand are, and because $R \text{ divide by } d$ is the same as $R \text{ multiply by } (1/d)$, the output from 16, the output from 17, and R in figure 3 of Tsuruta can be viewed as a previous sum, a current partial product and a multiplicand, respectively, as claimed.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis, Jr. A. Bullock can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chuong D Ngo/
Primary Examiner, Art Unit 2193

09/10/2008